

CLAIMS

We claim:

1. A chemical composition comprising an emulsified admixture of:
from about 10 to about 70 weight percent water;
from about 1 to about 60 weight percent acid blend, the acid blend including at least one mineral acid and at least one organic acid;
5 from about 1 to about 40 weight percent surfactant, the surfactant comprising a blend of a nonionic surfactant and an anionic surfactant; and
from about 0.5 to about 40 weight percent solvent.
2. The composition according to claim 1, further comprising from about 1 to about 25 weight percent co-solvent.
3. The composition according to claim 1, further comprising from about 0.05 to about 1.0 weight percent oxidizer.
4. The composition according to claim 1, in which the surfactant comprises about 1 to about 25 weight percent nonionic surfactant and about 1 to about 25 weight percent anionic surfactant.
5. The composition according to claim 1, in which the acid blend comprises from about 8 to about 16 weight percent of said composition.
6. The composition according to claim 1, in which the anionic surfactant comprises from about 12 to about 16 weight percent of said composition.
7. The composition according to claim 1, in which the nonionic surfactant comprises from about 2 to about 6 weight percent of said composition.

8. The composition according to claim 1, in which the solvent comprises from about 5 to about 10 weight percent of said composition.
9. The composition according to claim 2, in which the co-solvent comprises from about 3 to about 16 weight percent of said composition.
10. The composition according to claim 1, further comprising a cationic surfactant.

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11. A chemical composition comprising an emulsified admixture of:
from about 10 to about 70 weight percent water;
from about 1 to about 60 weight percent acid blend, the acid blend including at least one mineral acid and at least one organic acid;
from about 1 to about 25 weight percent nonionic surfactant;
from about 1 to about 25 weight percent anionic surfactant;
from about 0.5 to about 40 weight percent solvent; and
from about 1 to about 25 weight percent co-solvent.
12. The composition according to claim 11, further comprising from about 0.05 to about 1.0 weight percent oxidizer.
13. The composition according to claim 11, in which the acid blend comprises from about 8 to about 16 weight percent of said composition.
14. The composition according to claim 11, in which the anionic surfactant comprises from about 12 to about 16 weight percent of said composition.
15. The composition according to claim 11, in which the nonionic surfactant comprises from about 2 to about 6 weight percent of said composition.
16. The composition according to claim 11, in which the solvent comprises from about 5 to about 10 weight percent of said composition.
17. The composition according to claim 11, in which the co-solvent comprises from about 3 to about 16 weight percent of said composition.
18. The composition according to claim 12, in which the oxidizer is selected from the group consisting of potassium permanganate, sodium permanganate, calcium permanganate and peroxide.
19. The composition according to claim 11, further comprising a cationic

5 surfactant.

20. A method for preparing a micro-emulsified well cleaning composition, the method comprising:

5 admixing, with continuous mixing, from about 10 to about 70 weight percent water, from about 1 to about 60 weight percent acid blend including at least one mineral acid and at least one organic acid, from about 1 to about 25 weight percent nonionic surfactant, from about 1 to about 25 weight percent anionic surfactant, and from about 1 to about 25 weight percent co-solvent to provide a first intermediate mixture; and

10 adding to said first intermediate mixture, with continuous mixing, from about 0.5 to about 40 weight percent solvent and from about 0.05 to about 1 weight percent oxidizer, based on the final weight of said emulsion, and

 continuing mixing until said composition comprises a micro-emulsion.